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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Seok Kyu Park

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EXAMINER

GOLIGHTLY, ERIC WAYNE

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

06/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/516,604	Applicant(s) PARK, SEOK KYU	
	Examiner Eric Golightly	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/21/2009 has been entered.

2. Claims 1-5 and 7-35 are pending. Claims 6 and 36-40 are cancelled.

Claim Objections

3. Claim 3 is objected to because of the following informality:

The word "the" should be deleted in the phrase "a the second" in line 14.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 8, 9, 11-18, 20-30, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,770,376 to Sharpe (hereinafter "Sharpe").

Sharpe teaches a method for sanitizing a clothes washer (abstract) and discloses the steps of: supplying water to a tub (col. 4, lines 31-36 and col. 5, lines 46-52); rotating the tub (col. 2, lines 52-57 and col. 5, line 43 and 49-52); energizing the main motor after the water supply is completed (col. 5, lines 34-39), or soaking contaminants for a predetermined time period by holding the tub and agitator stationary; and draining water from the tub (col. 5, line 65 to col. 6, line 6).

Regarding claims 1-5, Sharpe does not explicitly teach that no laundry is to be introduced into the tub, permeating water into the contaminants, the use of a pulsator, removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub, separating soaked contaminants from the surface of the tub by holding the tub and pulsator stationary, and that supplying water and rotating the tub are performed at the same time. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to supply water without laundry in order to prevent cross-contamination from the tub to the laundry or vice versa, as per the Sharpe teaching. Regarding supplying water and rotating the tub being performed at the same time, the selection of the order of performing steps is prima facie obvious in the absence of new or unexpected results. MPEP 2144.04(IV)(C). It is noted that Sharpe discloses that recirculating water to and from the tub, which reads on supplying water to the tub, during washing operations advantageously permits filtration of the water (col. 2, lines 9-15 and 66-89 and col. 3, lines 1-7), which at least suggests also recirculating, or

supplying, during tub sanitation in order to filter the water. The skilled artisan would have found it obvious that the method as per the Sharpe cleaning could be performed with a reasonable expectation of success to clean a washing machine comprising a pulsator, wherein the tube and pulsator are held stationary and are rotated, as with the tub and agitator of the Sharpe teaching. As to permeating water into the contaminants, removing contaminants stuck to the surface of the tub and separating soaked contaminants from the surface of the tub, these limitations are inherent in the Sharpe method because the water supplied to the tub will permeate, and rotating a tub or pulsator will remove and separate contaminants.

Further regarding claims 2-5 and 11, Sharpe does not explicitly teach supplying water to the surface of the tub during draining thereby preventing resticking of the contaminants to the surface of the tub. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to supply water during draining in the method as per the Sharpe teaching, including during a later half of the draining step, because this is a conventional technique for enhancing the cleaning process (see, for example, the abstract and Fig. 9 of US 5,167,722 to Pastryk, et al. which teaches a spray rinse process for an automatic washer including a rinsing process during the draining step).

Further regarding claims 3-5, Sharpe discloses spraying water to the tub, which reads on supplying water to the tub for a second time and rinsing the surface of the tub (col. 5, lines 46-52) and draining water from the tub for a second time (col. 6, lines 37 and 38).

Further regarding claims 4 and 5, Sharpe does not explicitly teach supplying water to the surface of the tub during the step of draining water from the tub for a second time thereby preventing resticking of contaminants to the surface of the tub. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to repeat the step of supplying water to the surface of the tub during the step of draining water from the tub for a second time in the method as per the Sharpe teaching in order enhance the cleaning process. Supplying water a second time will prevent sticking of contaminants to the tub surface.

Regarding claims 5 and 14, it would have been obvious to one of ordinary skill in the art at the time of the invention to use high speed rotation in the method as per the Sharpe teaching to remove water from the surface of the tub because high speed rotation is a conventional technique for water removal (see, for example, US 2,588,774 to Smith at col. 8, lines 5-8, which teaches a washing machine wherein clothes are spun at high speed to remove rinse water).

Regarding claims 8, Sharpe discloses rotating a basket, or tub (col. 4, lines 28-30), which will form a water circulation. It is noted that water will be permeating contaminants while rotating the tub per Sharpe.

Regarding claims 9, 32 and 35, Sharpe discloses rotating a basket, or tub, at low speed (col. 4, lines 25-30) but does not explicitly teach rotating the tub at high speed. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use high speed rotation in the method as per the Sharpe teaching in order to provide a greater driving force for permeation.

Regarding claim 12, Sharpe does not explicitly teach rotating the tub while water is supplied to the tub during the step of supplying water to the tub surface. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to rotate the tub while thus supplying water to the tub surface in the method as per the Sharpe teaching for enhancing the comprehensive tub surface area coverage and removal of water.

Regarding claim 13, Sharpe discloses spraying water to the surface of the tub (col. 5, lines 46-52).

Regarding claim 15, Sharpe discloses introducing chlorine bleach, or a halide group bleaching agent, into a dispensing cup (Fig. 1, ref. 150 and col. 4, lines 11-18) which is in the tub (Fig. 1, ref. 28 and col. 2, line 20) before supplying the water. However, the skilled artisan would have found it obvious that introducing the bleaching agent into the tub could be performed during supplying water to the tub such that that bleaching agent and water are supplied to the tub together with a reasonable expectation of success in view of, inter alia, the Sharpe disclosure of bleach to water concentration ratios (col. 4, lines 61 to col. 5, line 2) and gradually dispensing the bleach into the water (col. 5, lines 37-39)

Regarding claims 16 and 17, Sharpe does not explicitly teach using an oxygen group bleaching agent. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an oxygen bleaching agent because oxygen group agents are conventionally known bleaching agents (see, for example, US

4,618,444 to Hudson, et al. at col. 2, lines 24-32, which teaches a laundry detergent with a peroxygen bleaching agent).

Regarding claim 18, Sharpe discloses introducing a disinfectant (col. 4, lines 11-16) but does not explicitly teach introducing a fungicidal agent. However, It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fungicidal agent in the method as per Sharpe because these agents are conventionally used to enhance cleaning (see, for example, US 6,530,384 to Meyers, et al. at col. 5, lines 42-44), which teaches a cleaning solution comprising a fungicide).

Regarding claim 20, Sharpe discloses displaying a “sanitize” cycle (Fig. 2, see bold arrow below, and col. 4, lines 11-14), or tub cleaning course, which is under progress on a display of the washing machine during tub cleaning.

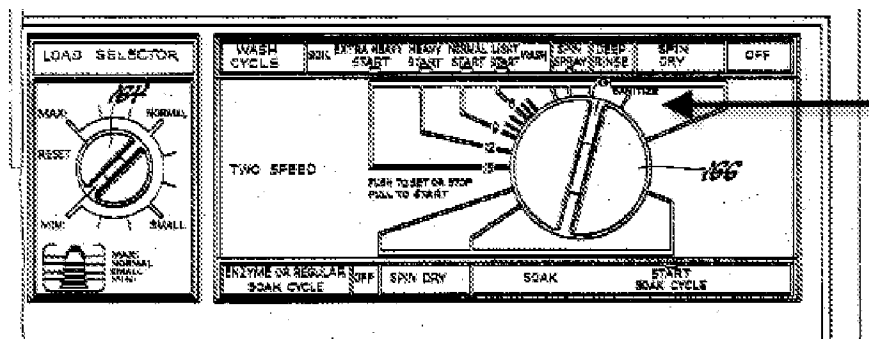


Fig. 2

Regarding claims 21-26, Sharpe does not explicitly teach displaying an accumulated number of washing courses performed by the washing machine after the tub cleaning on a display of the washing machine. However, It would have been obvious to one of ordinary skill in the art at the time of the invention to display the

washing courses as claimed in the method as per the Sharpe teaching because it is conventional to display the accumulated number of processes completed since a reset (see, for example, US 2002/0128729 to Blair, et al. at [0037] which teaches a laundry machine control system wherein the total number of times a cycle has been activated since the counts were last cleared is displayed).

Regarding claims 22-25, Sharpe does not explicitly teach displaying a target number of washing courses to be performed by the washing machine before the next tub cleaning on a display of the washing machine. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to display the target number when using the method as per the Sharpe teaching in order to enhance an operator's ability to ensure that the cleanings occur in a timely manner.

Regarding claim 23 specifically, Sharpe does not explicitly teach that the target number can be changed. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a changeable target number with the method as per the Sharpe teaching in order to fine tune the cleaning process.

Regarding claim 24 specifically, Sharpe discloses a tub cleaning step wherein a user manually selects a tub cleaning course (col. 4, lines 11-18) but does not explicitly teach selection of a tub cleaning course when the accumulated number of washing courses reaches the target number. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to select of the tub cleaning course upon reaching the target number in the method as per the Sharpe teaching in order to ensure the cleanliness of the tub.

Regarding claim 25 specifically, Sharpe does not explicitly teach automatic performance of the tub cleaning steps when the accumulated number of washing courses reaches the target number. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the method as per the Sharpe teaching in this manner in order to inhibit the likelihood that the cleaning will be neglected due to operator error.

Regarding claim 26 specifically, Sharpe discloses a step wherein a user manually selects a tub cleaning course (col. 4, lines 11-18) but does not explicitly teach setting a mode where a user manually selects a tub cleaning course when the accumulated washing courses performed by the washing machine displayed reaches a target number of washing courses to be performed before the next tub cleaning. However, It would have been obvious to one of ordinary skill in the art at the time of the invention to use such a manual mode with the method as per the Sharpe teaching in order to allow for operator override in case of an automation problem.

Regarding claim 27, Sharpe does not explicitly teach setting a time to automatically perform a tub cleaning at the washing machine. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the method of the Sharpe teaching in this manner in order to inhibit the likelihood that the cleaning will be neglected due to an operator's forgetfulness.

Regarding claim 28, Sharpe does not explicitly teach setting a mode where tub cleaning automatically progresses. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the method as per the

Sharpe teaching in this manner in order to free up an operator who would otherwise be needed to manually perform the cleaning. See MPEP 2144.04(III).

Regarding claim 29, Sharpe discloses spinning, or rotating, a tub (col. 6, lines 6-11), which forms a water circulation. It is noted that contaminants will be separating while rotating the tub per Sharpe.

Regarding claim 30, Sharpe does not explicitly teach rotating the tub at high speed. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use high speed rotation in the method as per the Sharpe teaching in order to provide increased agitation for cleaning. It is noted that contaminants will be separating and water will be circulating in a radial direction in the tub while rotating at high speed in the method as per the Sharpe teaching.

6. Claims 7, 10, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharpe (US 3,770,376) in view of KR 20010093969 to Kim (hereinafter "Kim").

Sharpe discloses rotating an agitator (col. 4, lines 25-30) but does not explicitly teach that the agitator used is a pulsator, permeating by rotating a pulsator provided in the tub for forming a water circulation, or rotating the tub at high speed. However, Kim teaches a washing machine tub cleaning method wherein a water current is made to rise along the tub wall due to a rotating pulsator, which reads on a pulsator forming water circulation. It would have been obvious to one of ordinary skill in the art at the

time of the invention to include the use of the rotating pulsator as per the Kim teaching in the method as per the Sharpe teaching because affecting a water current in this manner increases agitation, enhancing the cleaning process. Moreover, the skilled artisan would have found it obvious to use high speed rotation in the method as per the Sharpe/Kim teachings in order to provide a greater driving force for permeation and agitation for separation.

7. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharpe (US 3,770,376) in view of JP 2002346288 to Iwai, et al. (hereinafter "Iwai").

Sharpe does not explicitly teach the use of a sterilizing agent which is a halogenated hydantoin compound that emits hypohalogenated acid. However, Iwai teaches a method of using a washing machine including a housing unit for use with a sterilizing agent which includes a hydantoin halide compound for releasing a hypohalogenic acid by water contact, which reads on the halogenated hydantoin compound. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the hydantoin compound of the Iwai teaching with the method as per the Sharpe teaching in order to inhibit bacteria growth and sanitation problems.

Response to Amendment

8. The rejections of claims 1-5 and 7-35 under 35 U.S.C. 112, second paragraph, and of claims 39-40 under 35 USC 103(a) are withdrawn in view of the amendment.

Response to Arguments

9. Regarding applicant's argument that the applied art does not teach or suggest removing the contaminants *and then* soaking the contaminants (remarks filed 4/21/2009 with RCE at page 12, second paragraph), and supplying water to the tub a second time after draining water for the first time (remarks at page 13, first paragraph), the claims do not impose the alleged specific orders of the steps. MPEP 2111. For example, there is no recitation of a phrases such as "and then" or the like between the claimed removing and soaking steps or between the first draining and second filling steps.

In fact, claim 3 teaches supplying water to the tub during the step of draining for the first time (lines 12 and 13), wherein this is the second supplying step in the claim (first occurs in line 3), which is the very order which applicant alleges is taught by Sharpe and points to as evidence that Sharpe does not meet the claim (page 13, first paragraph, last two sentences). The claim 13 recitation of supplying water a second time (line 14) is not clearly distinct from the supplying-during-draining step (lines 12 and 13).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Golightly whose telephone number is (571) 270-3715. The examiner can normally be reached on Monday to Thursday, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571) 272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EWG
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792